
California Board of Registered Nursing

2009-2010 Annual School Report

Data Summary and Historical Trend Analysis

A Presentation of Pre-Licensure Nursing Education Programs in California

Bay Area

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Prepared by:
Tim Bates, MPP
Dennis Keane, MPH
Joanne Spetz, PhD
Center for the Health Professions
University of California, San Francisco
3333 California Street, Suite 410
San Francisco, CA 94118



INTRODUCTION

Each year, the California Board of Registered Nursing (BRN) requires all pre-licensure registered nursing programs in California to complete a survey detailing statistics of their programs, students and faculty. The survey collects data from August 1 through July 31. Information gathered from these surveys is compiled into a database and used to analyze trends in nursing education.

The BRN commissioned the University of California, San Francisco (UCSF) to conduct a historical analysis of data collected from the 2000-2001 survey through the 2009-2010 survey. In this report, we present ten years of historical data from the BRN Annual School Survey. Data analyses were conducted statewide and for nine economic regions¹ in California, with a separate report for each region. All reports are available on the BRN website (<http://www.rn.ca.gov/>).

This report presents data from the 10-county Bay Area. Counties in the region include Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma. All data are presented in aggregate form and describe overall trends in the areas and over the times specified and, therefore, may not be applicable to individual nursing education programs. Additional data from the past ten years of the BRN Annual School Survey are available in an interactive database on the BRN website.

Data collected for the first time from the 2009-2010 survey are identified by the symbol (§). The reliability of these new data will be reviewed and considered for continued inclusion in future surveys.

¹ The nine regions include: (1) Northern California, (2) Northern Sacramento Valley, (3) Greater Sacramento, (4) Bay Area, (5) San Joaquin Valley, (7) Central Coast, (8) Southern California I (Los Angeles and Ventura counties), (9) Southern California II (Orange, Riverside, and San Bernardino counties), and (10) Southern Border Region. Counties within each region are detailed in the corresponding regional report. The Central Sierra (Region 6) does not have any nursing education programs and was, therefore, not included in the analyses.

DATA SUMMARY AND HISTORICAL TREND ANALYSES

This analysis presents pre-licensure program data from the 2009-2010 BRN Annual School Survey in comparison with data from previous years of the survey. Data items addressed include the number of nursing programs, enrollments, completions, retention rates, student and faculty census data, the use of clinical simulation by nursing programs, and clinical space and practice restrictions.

Trends in Pre-Licensure Nursing Programs

Number of Nursing Programs

There are 30 nursing programs in the Bay Area that lead to RN licensure. Of these programs, 18 are ADN programs, 7 are BSN programs, and 5 are ELM programs. The majority (76.7%) of pre-licensure nursing programs in the Bay Area are public. There were no new programs in the region in the last year.

Number of Nursing Programs

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
Total # Nursing Programs	27	27	27	27	28	28	29	30	30	30
ADN Programs	16	16	16	16	16	16	17	18	18	18
BSN Programs	7	7	7	7	7	7	7	7	7	7
ELM Programs	4	4	4	4	5	5	5	5	5	5
Public Programs	21	21	21	21	22	22	22	23	23	23
Private Programs	6	6	6	6	6	6	7	7	7	7

Admission Spaces and New Student Enrollments

Admission spaces available for new student enrollments declined in 2009-2010 by 14.4% (n=361) over the previous year, reversing the upward trend that had been consistent since 2001-2002. These spaces were filled with a total of 2,640 students, which also represents an 8.1% (n=234) decline in new student enrollment over the previous year. Pre-licensure nursing programs in the Bay Area continue to enroll more students than there are spaces available. The most frequently reported reason for doing so was to account for attrition.[‡]

Availability and Utilization of Admission Spaces

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
Spaces Available	1,683	1,659	1,806	1,869	2,060	2,193	2,319	2,368	2,513	2,152
New Student Enrollments	1,436	1,524	1,776	1,894	2,091	2,250	2,521	2,752	2,874	2,640
% Spaces Filled	85.3%	91.9%	98.3%	101.3%	101.5%	102.6%	108.7%	116.2%	114.4%	122.7%

[‡] Data were collected for the first time in the 2009-2010 survey.

Bay Area nursing programs receive more applications requesting entrance into their programs than can be accommodated. Although there was a small decline in the number of qualified applications in 2009-2010 over the previous year (n=100), the total has been fairly consistent over the past three years. However, because the number of new student enrollments declined in 2009-2010 compared to 2008-2009, the share of qualified applications that were not accepted for admission to a Bay Area nursing education program increased to 65.0% (n=4,894).

Applications Accepted and Not Accepted for Admission*

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
Qualified Applications	2,681	2,578	4,015	4,567	5,445	6,623	8,070	7,582	7,634	7,534
<i>Accepted</i>	1,436	1,524	1,776	1,894	2,091	2,250	2,521	2,752	2,874	2,640
<i>Not Accepted</i>	1,245	1,054	2,239	2,673	3,354	4,373	5,549	4,830	4,760	4,894
% Qualified Applications Not Accepted	46.4%	40.9%	55.8%	58.5%	61.6%	66.0%	68.8%	63.7%	62.4%	65.0%

*Since these data represent applications rather than individuals, an increase in qualified applications may not represent equal growth in the number of individuals applying to nursing school.

The overall decrease in new student enrollments in 2009-2010 was the result of declining enrollments in both ADN and BSN programs compared with the previous year. In contrast, new student enrollments in ELM programs increased very slightly. The decline in enrollments was also concentrated in the Bay Area's public nursing education programs.

New Student Enrollment by Program Type

	<i>Academic Year</i>									
	<i>2000-2001</i>	<i>2001-2002</i>	<i>2002-2003</i>	<i>2003-2004</i>	<i>2004-2005</i>	<i>2005-2006</i>	<i>2006-2007</i>	<i>2007-2008</i>	<i>2008-2009</i>	<i>2009-2010</i>
New Student Enrollment	1,436	1,524	1,776	1,894	2,091	2,250	2,521	2,752	2,874	2,640
ADN	745	781	882	961	1,039	1,113	1,332	1,378	1,426	1,313
BSN	531	556	686	672	777	846	872	1,043	1,173	1,031
ELM	160	187	208	261	275	291	317	331	275	296
Private	314	347	428	560	592	664	764	900	1,042	1,037
Public	1,122	1,177	1,348	1,334	1,499	1,586	1,757	1,852	1,832	1,603

Student Completions

The upward trend since 2000-2001 in student completions among nursing programs in the Bay Area continued in 2009-2010, increasing 4.5% (n=105) over the previous year. Of the 2,424 students that completed a nursing program in the Bay Area in 2009-2010, 47.4% (n=1,148) of them completed an ADN program, 40.6% (n=986) completed a BSN program, and 12.0% (n=290) completed an ELM program.

Student Completions

	Academic Year									
	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Student Completions	1,135	1,238	1,305	1,423	1,595	1,752	1,788	2,193	2,319	2,424
ADN	642	659	703	787	821	903	863	993	1,055	1,148
BSN	391	453	443	474	569	639	697	973	979	986
ELM	102	126	159	162	205	210	228	227	285	290

Retention Rate

Of the 2,165 students scheduled to complete a nursing program in the 2009-2010 academic year, 79.3% (n=1,717) completed the program on-time, 7.1% (n=153) are still enrolled in the program, and 13.6% (n=295) dropped out or were disqualified from the program. The retention rate has remained around 80% for the past five years.

Student Cohort Completion and Retention Data

	Academic Year									
	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Students Scheduled to Complete the Program	2,098	1,690	2,025	1,824	2,023	1,781	1,965	2,205	2,293	2,165
Completed On Time	1,504	1,205	1,599	1,455	1,496	1,427	1,591	1,746	1,827	1,717
Still Enrolled	273	259	146	132	120	101	137	153	158	153
Attrition	321	226	280	237	407	253	237	306	308	295
Completed Late [‡]										97
Retention Rate*	71.7%	71.3%	79.0%	79.8%	73.9%	80.1%	81.0%	79.2%	79.7%	79.3%
Attrition Rate	15.3%	13.4%	13.8%	13.0%	20.1%	14.2%	12.1%	13.9%	13.4%	13.6%
% Still Enrolled	13.0%	15.3%	7.2%	7.2%	5.9%	5.7%	7.0%	6.9%	6.9%	7.1%

*Retention rate = (students who completed the program on-time) / (students scheduled to complete the program)

‡ Data were collected for the first time in the 2009-2010 survey. These completions are not included in the calculation of either the retention or attrition rates.

From 2008-2009 to 2009-2010, attrition rates declined by 1.7% in BSN programs and held steady in ELM programs, while rates in ADN programs increased very slightly. ELM and BSN programs have lower attrition rates compared with ADN programs. 2009-2010 attrition rates in private nursing programs increased very slightly over last year, while rates at public programs held constant.

Attrition Rates by Program Type

Program Type	Academic Year									
	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
ADN	21.5%	17.1%	20.8%	14.4%	24.3%	18.9%	17.0%	21.0%	17.8%	18.4%
BSN	11.2%	13.7%	10.0%	13.0%	15.2%	10.5%	6.5%	6.3%	8.9%	7.2%
ELM	3.3%	1.2%	2.4%	5.4%	16.3%	5.0%	8.8%	5.5%	7.1%	7.2%
Private	11.3%	6.6%	7.6%	4.8%	19.2%	12.3%	9.6%	6.1%	10.2%	10.8%
Public	17.0%	17.8%	18.0%	16.2%	20.5%	15.0%	13.1%	17.2%	14.9%	14.7%

There has been fluctuation in the retention and attrition rates over the ten-year period documented in the above tables. There were changes to the survey between 2003-2004 and 2004-2005, and between 2004-2005 and 2005-2006 that may have affected the comparability of these data over time.

Student Census Data

On October 15, 2010 there were a total of 5,504 students enrolled in Bay Area nursing programs. This number has increased dramatically since 2001, but has stabilized in the past two years.

Student Census Data*

Program Type	Year									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ADN Program	1,359	1,376	1,660	1,661	1,885	1,621	1,935	2,208	2,176	2,072
BSN Program	1,660	1,523	1,927	1,971	2,251	2,431	2,179	2,556	2,790	2,890
ELM Program	190	148	338	487	472	422	586	601	592	542
Total Nursing Students	3,209	3,047	3,925	4,119	4,608	4,474	4,700	5,365	5,558	5,504

*Census data represent the number of students on October 15th of the given year.

Clinical Simulation in Nursing Education

All (100%) of the Bay Area schools (n=26) with pre-licensure nursing programs reported using clinical simulation² in 2009-2010, which is the same as in the previous year. Most schools that use clinical simulation centers reported using these facilities to standardize clinical experiences and to provide clinical experience not available in a clinical setting. Only 2 of the 26 schools (7.7%) using a clinical simulation center reported doing so as a means to increase capacity in their nursing programs. Of the 26 schools that used clinical simulation in 2009-2010, 65.4% (n=17) plan to expand their use of clinical simulation.

Reasons for Using a Clinical Simulation Center*	2007-2008	2008-2009	2009-2010
To standardize clinical experiences	88.9%	76.9%	84.6%
To provide clinical experience not available in a clinical setting	88.9%	76.9%	80.8%
To check clinical competencies	55.6%	53.8%	76.9%
To make up for clinical experiences	44.4%	38.5%	46.2%
To increase capacity in your nursing program	22.2%	11.5%	7.7%
Number of schools that use a clinical simulation center	18	26	26

*These data were collected for the first time in 2006-2007. However, changes in these questions for the 2007-2008 administration of the survey and lack of confidence in the reliability of the 2006-2007 data prevent comparability of the data. Therefore, data from previous years of the survey are not shown.

² Clinical simulation provides a simulated real-time nursing care experience using clinical scenarios and low to high fidelity mannequins, which allow students to integrate, apply, and refine specific skills and abilities that are based on theoretical concepts and scientific knowledge. It may include videotaping, de-briefing and dialogue as part of the learning process.

Clinical Space & Clinical Practice Restrictions[‡]

More than one-half (63.3%, n=19) of the pre-licensure nursing programs in the Bay Area reported being denied access to 60 clinical placement sites in 2009-2010 that had been available during the 2008-2009 academic year, affecting a total of 788 students. Overall, the most frequently reported reasons for why programs were denied clinical space were competition for space arising from an increase in the number of nursing students in the region, and being displaced by another program. However, there are differences in reasons reported by program type. For example 58.3% of ADN programs reported the site was no longer accepting ADN students. BSN and ELM programs more often reported staff nurse overload as a reason, and 75% of BSN programs reported a decrease in patient census as a reason.

Reasons for Clinical Space Being Unavailable	Program Type			
	ADN	BSN	ELM	Total
	%	%	%	%
Competition for Clinical Space due to Increase in Number of Nursing Students in Region	66.6%	100%	100%	79.0%
Displaced by Another Program	50.0%	75.0%	100%	63.2%
Staff Nurse Overload	33.3%	100%	66.7%	52.6%
Clinical Facility Seeking Magnet Status	50.0%	50.0%	33.3%	47.4%
Decrease in Patient Census	33.3%	75.0%	0.0%	36.8%
Nursing Residency Programs	33.3%	25.0%	33.3%	31.6%
No Longer Accepting ADN Students	58.3%	0.0%	0.0%	36.8%
Other	16.7%	0.0%	0.0%	10.5%
Number of programs	12	4	3	19

The majority of nursing schools in the Bay Area, 84.6% (n=22) reported that pre-licensure students in their programs had encountered restrictions to clinical practice imposed on them by clinical facilities. The most common types of restricted access students faced were to the clinical site due to a visit from the Joint Commission or another accrediting agency, bar coding medication administration, and access to electronic medical records. Schools reported that it was uncommon to have students face restrictions on direct communication with health care team members, access to glucometers, or access to IV medication administration.

Type of Restricted Access	Percentage of Schools (%)					# Schools
	Very Uncommon	Uncommon	Common	Very Common	N/A	
Bar coding medication administration	0.0%	27.3%	40.9%	27.3%	4.5%	22
Electronic Medical Records	4.5%	22.8%	31.8%	36.4%	4.5%	22
Glucometers	0.0%	55.0%	20.0%	25.0%	0.0%	20
Automated medical supply cabinets	13.6%	27.3%	18.2%	36.4%	4.5%	22
IV medication administration	10.0%	45.0%	25.0%	15.0%	5.0%	20
Clinical site due to visit from accrediting agency (Joint Commission)	0.0%	23.8%	28.6%	47.6%	0.0%	21
Direct communication with health team	19.1%	57.1%	4.8%	14.2%	4.8%	21
Alternative setting due to liability	14.3%	38.1%	9.5%	14.3%	23.8%	21

[‡] Data were collected for the first time in the 2009-2010 survey.

Faculty Census Data

The total number of nursing faculty in the Bay Area increased by 4.7% (n=39) over the last year, due to an increase in the number of part-time faculty members. On October 15, 2010, there were 875 total nursing faculty. Of these faculty, 36.5% (n=319) were full-time and 63.5% (n=556) were part-time.

Although Bay Area nursing schools continue to report a need for faculty, there were fewer reported vacancies this year. On October 15, 2009, there were 26 vacant faculty positions in the Bay Area. These vacancies represent a 2.9% faculty vacancy rate, a full percentage point lower by comparison with the previous year.

Faculty Census Data¹

	Year									
	2001	2002	2003	2004	2005 ²	2006*	2007*	2008	2009	2010
Total Faculty	475	506	533	579	623	652	802	855	836	875
Full-time	240	252	260	240	190	237	334	333	321	319
Part-time	235	254	273	339	201	415	466	522	515	556
Vacancy Rate**		3.6%	5.8%	3.5%	5.5%	10.7%	4.8%	3.5%	3.9%	2.9%
Vacancies		19	33	21	36	78	40	31	34	26

* The sum of full- and part-time faculty did not equal the total faculty reported in these years.

**Vacancy rate = number of vacancies/(total faculty + number of vacancies)

1 - Census data represent the number of faculty on October 15th of the given year.

2 - Faculty vacancies were estimated based on the vacant FTEs reported.

Summary

Over the past decade, the number of new students enrolled in Bay Area pre-licensure nursing programs has grown by 84% (n=1,204). However, after eight years of continued new student enrollment growth, 2009-2010 was the first year to see a decline. Similarly, between 2000-2001 and 2008-2009, admission spaces grew by 49.3% (n=830), but available spaces declined by 14.4% (n=361) in 2009-2010 over the previous year. Bay Area nursing programs continue to receive more qualified applications than can be accommodated, even though the number of qualified applications to these programs has decreased from a high of 8,070 applications in 2006-2007.

Bay Area nursing programs continue to produce a growing number of RN graduates. The total number of graduates in the region has more than doubled since 2000-2001, from 1,135 graduates in 2000-2001 to 2,424 graduates in 2009-2010. However, just as new student enrollment growth has slowed in recent years, the growth in program completions has also slowed. Retention rates in Bay Area nursing programs have remained around 80% since 2005-2006 and attrition rates have remained around 13% since 2007-2008. If the rate of enrollment growth continues to stabilize or decline and attrition remains at current levels, the number of graduates from Bay Area nursing programs will also stabilize or decline in the next few years.

All of the 26 Bay Area schools with pre-licensure nursing programs reported using clinical simulation in 2009-2010. The importance of clinical simulation is underscored by data collected for the first time in the 2009-2010 survey, which show that 63% of programs (n=19) were denied

access to clinical placement sites that were previously available to them. In addition, 85% of schools (n=22) reported that their students had faced restrictions to specific types of clinical practice or to the clinical site itself during the 2009-2010 academic year.

Expansion in RN education has required nursing programs to hire more faculty members to teach the growing number of students. The total number of faculty has increased 84.0% (n=400) since 2001, and the faculty vacancy rate among Bay Area nursing schools in 2010 was the lowest it's been in the past decade. The data suggest that the need for new faculty is being met primarily through the hiring of part-time faculty members.

APPENDIX A – Bay Area Nursing Education Programs

ADN Programs

Cabrillo College
Chabot College
City College of San Francisco
College of Marin
College of San Mateo
Contra Costa College
De Anza College
Evergreen Valley College
Gavilan College
Los Medanos College
Merritt College
Mission College
Napa Valley College
Ohlone College
Pacific Union College
Santa Rosa Junior College
Solano Community College
Unitek College

BSN Programs

CSU East Bay
Dominican University of California
Samuel Merritt University
San Francisco State University
San Jose State University
Sonoma State University
University of San Francisco

ELM Programs

Samuel Merritt University
San Francisco State University
Sonoma State University
University of California San Francisco
University of San Francisco

APPENDIX B – BRN Education Advisory Committee Members**BRN Education Advisory Committee Members****Members**

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